(FILE 'HOME' ENTERED AT 11:44:00 ON 16 AUG 2004)

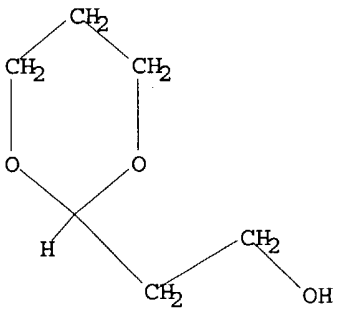
FILE 'REGISTRY' ENTERED AT 11:44:21 ON 16 AUG 2004

```
L1              STRUCTURE UPLOADED
L2              STRUCTURE UPLOADED
L3              STRUCTURE UPLOADED
L4            1 S 1,3-PROPANEDIOL/CN
L5            1 S 3-HYDROXYPROPANAL/CN
L6            0 S L1
L7            1 S L1 FUL
L8           10 S L2 FUL
L9            1 S 2-VINYL-1,3-DIOXANE/CN
L10           0 S L3
L11           1 S L3 FUL
```

FILE 'CAPLUS, CA, CAOLD, USPATFULL' ENTERED AT 11:53:10 ON 16 AUG 2004

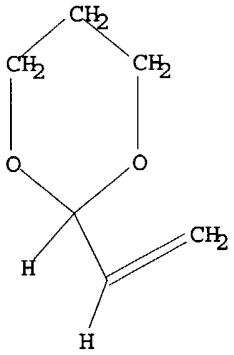
```
L12       10098 S L4
L13          30 S L7
L14         145 S L8
L15         135 S L9
L16           6 S L11
L17          22 S L12 AND L13
L18           9 S L17 AND L15
L19           4 DUP REM L18 (5 DUPLICATES REMOVED)
L20          13 S L17 NOT L18
L21           8 DUP REM L20 (5 DUPLICATES REMOVED)
L22           4 S L12 AND L16
L23           2 DUP REM L22 (2 DUPLICATES REMOVED)
```

```
=> d l1
L1 HAS NO ANSWERS
L1              STR
```



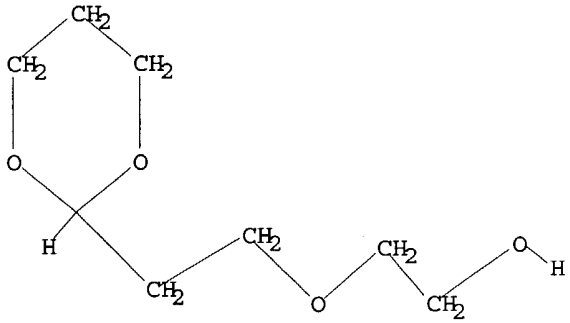
Structure attributes must be viewed using STN Express query preparation.

```
=> d l2
L2 HAS NO ANSWERS
L2              STR
```



Structure attributes must be viewed using STN Express query preparation.

=> d l3
L3 HAS NO ANSWERS
L3 STR



Structure attributes must be viewed using STN Express query preparation.

L19 ANSWER 1 OF 4 CAPLUS COPYRIGHT 2004 ACS on STN DUPLICATE 1
AN 2004:372937 CAPLUS
DN 140:377038
TI Solid-acid-catalyzed reactive stripping of impurities formed during the production of 1,3-propanediol
IN Powell, Joseph Broun; Weider, Paul Richard; Komplin, Glenn Charles
PA USA
SO U.S. Pat. Appl. Publ., 7 pp.
CODEN: USXXCO
DT Patent
LA English
FAN.CNT 2

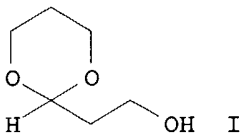
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI US 2004087819	A1	20040506	US 2003-676796	20031001
WO 2004041759	A1	20040521	WO 2003-US34581	20031030

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW, AM, AZ, BY, KG, KZ, MD

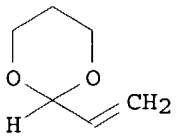
RW: BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG

PRAI US 2002-423097P	P	20021101	
US 2002-423140P	P	20021101	
US 2003-676796	A	20031001	

GI



I

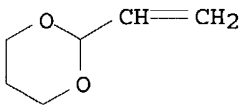


II

AB A process for producing 1,3-propanediol comprises: (a) forming an aqueous solution of 3-hydroxypropanal; (b) hydrogenating the 3-hydroxypropanal to form a first crude 1,3-propanediol mixture containing 1,3-propanediol, water, and a cyclic acetal (I); (c) distilling the first crude 1,3-propanediol mixture to remove water and low-boiling impurities and form a second crude 1,3-propanediol mixture; (d) contacting the second crude 1,3-propanediol mixture with a solid acid purifier (e.g., Amberlyst A15) at 50-250° to convert the I to more volatile cyclic acetals; and (e) separating the more volatile cyclic acetals from the 1,3-propanediol by distillation or gas stripping.
IT **5935-25-1P**

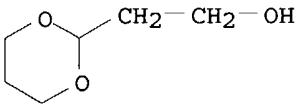
RL: BYP (Byproduct); PEP (Physical, engineering or chemical process); PYP (Physical process); REM (Removal or disposal); PREP (Preparation); PROC (Process)
(solid-acid-catalyzed reactive stripping of impurities formed during the production of 1,3-propanediol)

RN 5935-25-1 CAPLUS
CN 1,3-Dioxane, 2-ethenyl- (9CI) (CA INDEX NAME)



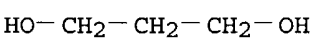
IT **5465-07-6P**, 1,3-Dioxane-2-ethanol
RL: BYP (Byproduct); RCT (Reactant); RGT (Reagent); PREP (Preparation); RACT (Reactant or reagent)
(solid-acid-catalyzed reactive stripping of impurities formed during the production of 1,3-propanediol)

RN 5465-07-6 CAPLUS
CN 1,3-Dioxane-2-ethanol (9CI) (CA INDEX NAME)



IT **504-63-2P**, 1,3-Propanediol
RL: IMF (Industrial manufacture); PEP (Physical, engineering or chemical process); PUR (Purification or recovery); PYP (Physical process); PREP (Preparation); PROC (Process)
(solid-acid-catalyzed reactive stripping of impurities formed during the production of 1,3-propanediol)

RN 504-63-2 CAPLUS
CN 1,3-Propanediol (8CI, 9CI) (CA INDEX NAME)



L19 ANSWER 2 OF 4 CAPLUS COPYRIGHT 2004 ACS on STN DUPLICATE 2
AN 2004:57518 CAPLUS
DN 140:111028
TI Preparation of acetals and/or ketals with high selectivity as intermediates for polyhydric alcohols from carbonyl-containing olefins
IN Takahara, Jun
PA Mitsubishi Chemical Corp., Japan
SO Jpn. Kokai Tokkyo Koho, 23 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
FAN.CNT 1

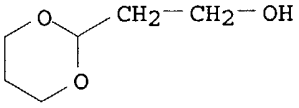
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI JP 2004018474	A2	20040122	JP 2002-177399	20020618
PRAI JP 2002-177399		20020618		

AB Acetals and/or ketals are prepared by oxidation of the olefins bearing carbonyl group and/or its protective groups with alcs. and O in the presence of catalysts, wherein the oxidation catalysts are previously in contact with O. Polyhydric alcs., useful as monomers for polyesters, are prepared by

hydrolysis of acetals and/or ketals and reduction Thus, 1,3-propanediol, Na2PdCl4, CuCl, and FeCl3 were fed to a reactor, the atmospheric was replaced with O, 10.27 mmol 2-vinyl-1,3-dioxane (I) and O were fed to the reactor, stirred, and cooled to give malonaldehyde bis(1,3-propanediol) acetal (II) 6.46, malonaldehyde mono(1,3-propanediol) acetal 0.23, and 2-(2-hydroxyethyl)-1,3-dioxane 1.42 mmol, vs. 0.18 mmol II from 8.94 mmol I when the atmospheric was replaced with N.

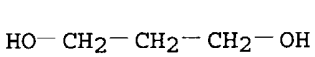
IT **5465-07-6P**, 1,3-Dioxane-2-ethanol
RL: BYP (Byproduct); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)
(preparation of polyhydric alcs. by oxidation of olefins bearing carbonyl groups with O and alcs., hydrolysis, and reduction)

RN 5465-07-6 CAPLUS
CN 1,3-Dioxane-2-ethanol (9CI) (CA INDEX NAME)



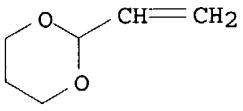
IT **504-63-2P**, 1,3-Propanediol
RL: IMF (Industrial manufacture); RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation of polyhydric alcs. by oxidation of olefins bearing carbonyl groups with O and alcs., hydrolysis, and reduction)

RN 504-63-2 CAPLUS
CN 1,3-Propanediol (8CI, 9CI) (CA INDEX NAME)



IT **5935-25-1**, 2-Vinyl-1,3-dioxane
RL: RCT (Reactant); RACT (Reactant or reagent)
(preparation of polyhydric alcs. by oxidation of olefins bearing carbonyl groups with O and alcs., hydrolysis, and reduction)

RN 5935-25-1 CAPLUS
CN 1,3-Dioxane, 2-ethenyl- (9CI) (CA INDEX NAME)



L19 ANSWER 3 OF 4 CAPLUS COPYRIGHT 2004 ACS on STN DUPLICATE 3
AN 2004:52820 CAPLUS
DN 140:111026
TI Preparation of polyhydric alcohols from olefins bearing carbonyl or its protective groups
IN Takahara, Jun
PA Mitsubishi Chemical Corp., Japan
SO Jpn. Kokai Tokkyo Koho, 21 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 2004018473	A2	20040122	JP 2002-177398	20020618

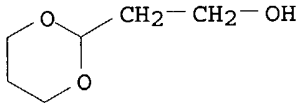
PRAI JP 2002-177398 20020618

AB Polyhydric alcs. (I), useful as monomers for polyesters, are prepared by oxidation of the olefins with alcs. (II) and O, hydrolysis of the oxidized products, and reduction, wherein the oxidized products are extracted with solvents incompatible with I and II during or after the oxidation process and the exts. are subjected to the hydrolysis process directly or after a part of the solvents are separated Thus, 9.5 mmol 2-vinyl-1,3-dioxane was oxidized with 1,3-propanediol (III) and O in the presence of catalysts in dichloroethane (IV) and cyclohexane (V) to give a III layer containing the catalysts and a IV-V layer containing malonaldehyde bis(1,3-propanediol) acetal 4.88, malonaldehyde mono(1,3-propanediol) acetal 0.289, and 2-(2-hydroxyethyl)-1,3-dioxane 1.42 mmol. The IV-V layer was subjected to hydrolysis and reduction to give 6.2 mmol III.

IT **5465-07-6P**, 1,3-Dioxane-2-ethanol
RL: BYP (Byproduct); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)
(preparation of polyhydric alcs. by oxidation of olefins bearing (protected) carbonyl groups with O and alcs., extraction with solvents incompatible with the alcs. and polyhydric alcs., hydrolysis, and reduction)

RN 5465-07-6 CAPLUS

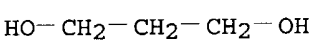
CN 1,3-Dioxane-2-ethanol (9CI) (CA INDEX NAME)



IT **504-63-2P**, 1,3-Propanediol
RL: IMF (Industrial manufacture); RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation of polyhydric alcs. by oxidation of olefins bearing (protected) carbonyl groups with O and alcs., extraction with solvents incompatible with the alcs. and polyhydric alcs., hydrolysis, and reduction)

RN 504-63-2 CAPLUS

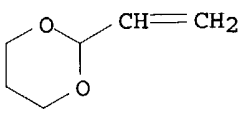
CN 1,3-Propanediol (8CI, 9CI) (CA INDEX NAME)



IT **5935-25-1**, 2-Vinyl-1,3-dioxane
RL: RCT (Reactant); RACT (Reactant or reagent)
(preparation of polyhydric alcs. by oxidation of olefins bearing (protected) carbonyl groups with O and alcs., extraction with solvents incompatible with the alcs. and polyhydric alcs., hydrolysis, and reduction)

RN 5935-25-1 CAPLUS

CN 1,3-Dioxane, 2-ethenyl- (9CI) (CA INDEX NAME)



L19 ANSWER 4 OF 4 CAPLUS COPYRIGHT 2004 ACS on STN DUPLICATE 4

AN 2002:975632 CAPLUS

DN 138:39030

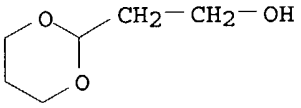
TI Preparation of 1,3-propanediol from 2-vinyl-1,3-dioxane with recycling catalysts

IN Toratani, Nobuo
PA Mitsubishi Chemical Corp., Japan
SO Jpn. Kokai Tokkyo Koho, 5 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
FAN.CNT 1

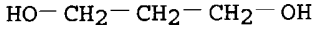
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI JP 2002371021	A2	20021226	JP 2001-184519	20010619
PRAI JP 2001-184519		20010619		

AB 1,3-Propanediol (I) is prepared by O oxidation of 2-vinyl-1,3-dioxane (II) in the presence of I and catalysts uniformly dissolved in I, followed by separation of the reaction mixture into a hydrophilic phase rich in I, H2O, and the dissolved catalysts, and a hydrophobic phase rich in nonaq. solvents and 1,3-dioxane derivs. as intermediates, removal of water from the hydrophilic phase, mixing the dehydrated phase with the hydrophobic phase, separation of the mixture into a catalyst phase rich in I, and a product phase rich in nonaq. solvents and the intermediates, returning the intermediate-removed catalyst phase to the oxidation process, and introducing the product phase to conversion process. Thus, II was oxidized by O in the presence of I, C6H6, and a homogeneously dissolved catalyst, then the reaction mixture was processed as described above to give a catalyst phase containing I 5743, malonaldehyde bis(trimethylene acetal) 653, its monoacetal 120, 2-hydroxyethyl-1,3-dioxane 418, 2-(6-hydroxy-3-oxahexyl)-1,3-dioxane 175, and C6H6 80 weight parts.

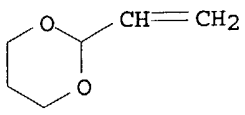
IT **5465-07-6P**, 1,3-Dioxane-2-ethanol
RL: IMF (Industrial manufacture); PEP (Physical, engineering or chemical process); PYP (Physical process); RCT (Reactant); REM (Removal or disposal); PREP (Preparation); PROC (Process); RACT (Reactant or reagent)
(intermediate; removal of intermediates from homogeneous catalyst solns. in preparation of 1,3-propanediol from 2-vinyl-1,3-dioxane with recycling catalysts)
RN 5465-07-6 CAPLUS
CN 1,3-Dioxane-2-ethanol (9CI) (CA INDEX NAME)



IT **504-63-2P**, 1,3-Propanediol
RL: IMF (Industrial manufacture); NUU (Other use, unclassified); PREP (Preparation); USES (Uses)
(removal of intermediates from homogeneous catalyst solns. in preparation of 1,3-propanediol from 2-vinyl-1,3-dioxane with recycling catalysts)
RN 504-63-2 CAPLUS
CN 1,3-Propanediol (8CI, 9CI) (CA INDEX NAME)

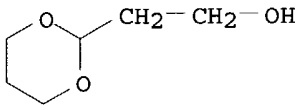


IT **5935-25-1**, 2-Vinyl-1,3-dioxane
RL: RCT (Reactant); RACT (Reactant or reagent)
(removal of intermediates from homogeneous catalyst solns. in preparation of 1,3-propanediol from 2-vinyl-1,3-dioxane with recycling catalysts)
RN 5935-25-1 CAPLUS
CN 1,3-Dioxane, 2-ethenyl- (9CI) (CA INDEX NAME)

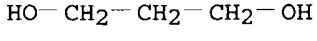

O
CH
CH2
O

L21 ANSWER 1 OF 8 USPATFULL on STN
AN 2003:332509 USPATFULL
TI Method for communicating local information between component objects and hosts
IN Bhansali, Anil, Newcastle, WA, United States
Wentz, Brian D., Seattle, WA, United States
PA Microsoft Corporation, Redmond, WA, United States (U.S. corporation)
PI US 6667736 B1 20031223
AI US 1998-99235 19980617 (9)
DT Utility
FS GRANTED
EXNAM Primary Examiner: Follansbee, John; Assistant Examiner: Nguyen, V. H.
LREP Merchant & Gould, LLC
CLMN Number of Claims: 25
ECL Exemplary Claim: 1
DRWN 5 Drawing Figure(s); 5 Drawing Page(s)
LN.CNT 940
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB Communicating local information, such as a user interface language, between a host application and a software component. In response to a user's request, the host application invokes the software component to perform a task addressing the user's request, such as generating user interface message. In order to determine the appropriate language for the user interface message, the software component queries the host application to identify the user and to return the user interface language requirements for the user. In the case where the host application is an end-user application, the host returns the current user interface language as the user interface language requirement. When the host application is a server application using a multi-threaded environment, the host application returns the user interface language of the currently running thread at the time of the query. If the host application is not an end-user application or does not use a multi-threaded architecture, the software component provides contextual information in a parameter of the query to aid the host application in determining the user interface language requirements. In the event that the software component does not receive user interface requirements from the host application, the software component follows a priority scheme to determine the user interface language.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.
IT **5465-07-6P**, 1,3-Dioxane-2-ethanol
(production of 1,3-propanediol by two-stage catalytic hydrogenation of 3-hydroxypropanal)
RN 5465-07-6 USPATFULL
CN 1,3-Dioxane-2-ethanol (9CI) (CA INDEX NAME)

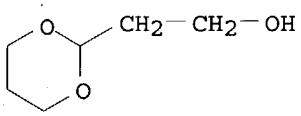


IT **504-63-2P**, 1,3-Propanediol
(production of 1,3-propanediol by two-stage catalytic hydrogenation of 3-hydroxypropanal)
RN 504-63-2 USPATFULL
CN 1,3-Propanediol (8CI, 9CI) (CA INDEX NAME)

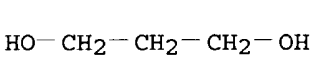


L21 ANSWER 2 OF 8 USPATFULL on STN
AN 2001:168288 USPATFULL
TI Two-stage process for the production of 1,3-propanediol by catalytic hydrogenation of 3-hydroxypropanal
IN Haas, Thomas, Frankfurt, Germany, Federal Republic of
Jaeger, Bernd, Darmstadt, Germany, Federal Republic of
Sauer, Joerg, Rodenbach, Germany, Federal Republic of
Hofen, Willi, Rodenbach, Germany, Federal Republic of
Vanheertum, Rudolf, Kahl, Germany, Federal Republic of
PA E. I. du Pont de Nemours and Company, Wilmington, DE, United States (U.S. corporation)
PI US 6297408 B1 20011002
WO 2000014041 20000316
AI US 2001-786501 20010302 (9)
WO 1999-US19980 19990901
20010302 PCT 371 date
20010302 PCT 102(e) date
PRAI US 1998-99235P 19980904 (60)
DT Utility
FS GRANTED
EXNAM Primary Examiner: Barts, Samuel; Assistant Examiner: Price, Elvis O.
CLMN Number of Claims: 10
ECL Exemplary Claim: 1
DRWN No Drawings
LN.CNT 666
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB A two-stage process for producing 1,3-propanediol by first hydrogenating at a temperature of 30° C. to 80° C. in the presence of an oxide-supported metal hydrogenation catalyst. Second, the resulting reaction solution is hydrogenated at a temperature of 80° C. to 180° C. to a 3-hydroxypropanal conversion of substantially 100% in the presence of an activated carbon-supported metal hydrogenation catalyst.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.
IT **5465-07-6P**, 1,3-Dioxane-2-ethanol
(production of 1,3-propanediol by two-stage catalytic hydrogenation of 3-hydroxypropanal)
RN 5465-07-6 USPATFULL
CN 1,3-Dioxane-2-ethanol (9CI) (CA INDEX NAME)



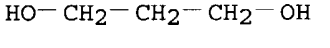
IT **504-63-2P**, 1,3-Propanediol
(production of 1,3-propanediol by two-stage catalytic hydrogenation of 3-hydroxypropanal)
RN 504-63-2 USPATFULL
CN 1,3-Propanediol (8CI, 9CI) (CA INDEX NAME)



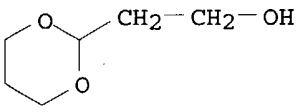
L21 ANSWER 3 OF 8 USPATFULL on STN
AN 2001:71746 USPATFULL
TI Method for reducing the content of acetals or ketals in alcohol-containing reaction mixtures

IN Haas, Thomas, Frankfurt, Germany, Federal Republic of
Jager, Bernd, Darmstadt, Germany, Federal Republic of
Sauer, Jorg, Rodenbach, Germany, Federal Republic of
Vanheertum, Rudolf, Kahl, Germany, Federal Republic of
PA Degussa-Huls AG, Frankfurt am Main, Germany, Federal Republic of
(non-U.S. corporation)
PI US 6232512 B1 20010515
AI US 1999-386415 19990831 (9)
PRAI DE 1998-19840277 19980904
DT Utility
FS Granted
EXNAM Primary Examiner: O'Sullivan, Peter
LREP Pillsbury Winthrop LLP
CLMN Number of Claims: 8
ECL Exemplary Claim: 1
DRWN No Drawings
LN.CNT 283
CAS INDEXING IS AVAILABLE FOR THIS PATENT.
AB Reduction in the content of acetals or ketone acetals in a reaction mixture containing at least 10 moles alcohol per mole acetal or ketone acetal can be achieved hydrogenolytically when the reaction mixture is hydrogenated at 80° to 250° C. at a hydrogen partial pressure of 0.5 to 30 MPa in the presence of activated carbon charged with noble metal as catalyst.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.
IT **504-63-2P**, 1,3-Propanediol
(hydrogenolysis method and catalysts for the reduction of the acetal or ketal content in aqueous alc. reaction mixts.)
RN 504-63-2 USPATFULL
CN 1,3-Propanediol (8CI, 9CI) (CA INDEX NAME)



IT **5465-07-6**, 1,3-Dioxane-2-ethanol
(hydrogenolysis method and catalysts for the reduction of the acetal or ketal content in aqueous alc. reaction mixts.)
RN 5465-07-6 USPATFULL
CN 1,3-Dioxane-2-ethanol (9CI) (CA INDEX NAME)

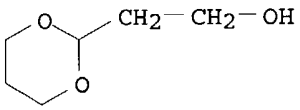


L21 ANSWER 4 OF 8 CAPLUS COPYRIGHT 2004 ACS on STN DUPLICATE 1
AN 2000:175776 CAPLUS
DN 132:196122
TI Production of 1,3-propanediol by the two-stage catalytic hydrogenation of 3-hydroxypropanal
IN Haas, Thomas; Jaeger, Bernd; Sauer, Joerg; Hofen, Willi; Vanheertum, Rudolf
PA E. I. Du Pont de Nemours & Co., USA
SO PCT Int. Appl., 21 pp.
CODEN: PIXXD2
DT Patent
LA English
FAN.CNT 1
PATENT NO. KIND DATE APPLICATION NO. DATE

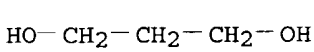
PI	WO 2000014041	A1	20000316	WO 1999-US19980	19990901
	W: AE, AL, AU, BA, BB, BG, BR, CA, CN, CR, CU, CZ, EE, GD, GE, HR, HU, ID, IL, IN, IS, JP, KP, KR, LC, LK, LR, LT, LV, MG, MK, MN, MX, NO, NZ, PL, RO, SG, SI, SK, SL, TR, TT, UA, US, UZ, VN, YU, ZA, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
	RW: GH, GM, KE, LS, MW, SD, SL, SZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG				
	CA 2339503	AA	20000316	CA 1999-2339503	19990901
	AU 9957981	A1	20000327	AU 1999-57981	19990901
	EP 1109767	A1	20010627	EP 1999-945373	19990901
	EP 1109767	B1	20030326		
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, FI				
	BR 9913475	A	20010814	BR 1999-13475	19990901
	TR 200100678	T2	20010921	TR 2001-200100678	19990901
	JP 2003510246	T2	20030318	JP 2000-568801	19990901
	AT 235449	E	20030415	AT 1999-945373	19990901
	ES 2194505	T3	20031116	ES 1999-945373	19990901
	US 6297408	B1	20011002	US 2001-786501	20010302
PRAI	US 1998-99235P	P	19980904		
	WO 1999-US19980	W	19990901		

AB A two-stage process for producing 1,3-propanediol comprises first hydrogenating 3-hydroxypropanal at 30-80° in the presence of an oxide-supported metal hydrogenation catalyst and the resulting reaction solution (containing the 1,3-propanediol acetal of 3-hydroxypropanal, which acetal boils at a similar temperature to 1,3-propanediol) is then hydrogenated at 80-180° to a 3-hydroxypropanal conversion of substantially 100% in the presence of an activated carbon-supported metal hydrogenation catalyst.

IT **5465-07-6P**, 1,3-Dioxane-2-ethanol
RL: BYP (Byproduct); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)
(production of 1,3-propanediol by two-stage catalytic hydrogenation of 3-hydroxypropanal)
RN 5465-07-6 CAPLUS
CN 1,3-Dioxane-2-ethanol (9CI) (CA INDEX NAME)



IT **504-63-2P**, 1,3-Propanediol
RL: IMF (Industrial manufacture); PREP (Preparation)
(production of 1,3-propanediol by two-stage catalytic hydrogenation of 3-hydroxypropanal)
RN 504-63-2 CAPLUS
CN 1,3-Propanediol (8CI, 9CI) (CA INDEX NAME)



RE.CNT 3 THERE ARE 3 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

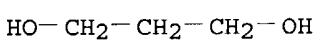
L21 ANSWER 5 OF 8 CAPLUS COPYRIGHT 2004 ACS on STN DUPLICATE 2
AN 2000:160991 CAPLUS
DN 132:196113
TI Hydrogenolysis method and catalysts for the reduction of the acetal or

ketal content in aqueous alcoholic reaction mixtures
IN Haas, Thomas; Jaeger, Bernd; Sauer, Jorg; Vanheertum, Rudolf
PA Degussa-Huels Aktiengesellschaft, Germany
SO Eur. Pat. Appl., 6 pp.
CODEN: EPXXDW
DT Patent
LA German
FAN.CNT 1

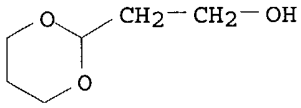
	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 983985	A2	20000308	EP 1999-116582	19990825
	EP 983985	A3	20000517		
	EP 983985	B1	20031210		
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO				
	DE 19840277	A1	20000309	DE 1998-19840277	19980904
	US 6232512	B1	20010515	US 1999-386415	19990831
	JP 2000086557	A2	20000328	JP 1999-247598	19990901
PRAI	DE 1998-19840277	A	19980904		

AB The acetal [e.g., 2-(2-hydroxyethyl)-1,3-dioxane] or ketal content in aqueous alc. (e.g., 1,3-propanediol) reaction mixts. (having a >10 mol monohydric or polyhydric alc. concentration per mol of acetal or ketal, and which are formed during the hydrogenation of α- and β-hydroxycarbonyl compds.) is reduced with the formation of the corresponding diol (e.g., 1,3-propanediol) by contacting the reaction mixture with hydrogen at 80-250°/0.5-30 MPa in the presence of a catalyst comprising a platinum-group metal supported on activated carbon (e.g., Ru/C).

IT **504-63-2P**, 1,3-Propanediol
RL: NUU (Other use, unclassified); PUR (Purification or recovery); SPN (Synthetic preparation); PREP (Preparation); USES (Uses)
(hydrogenolysis method and catalysts for the reduction of the acetal or ketal content in aqueous alc. reaction mixts.)
RN 504-63-2 CAPLUS
CN 1,3-Propanediol (8CI, 9CI) (CA INDEX NAME)

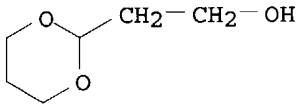


IT **5465-07-6**, 1,3-Dioxane-2-ethanol
RL: RCT (Reactant); RACT (Reactant or reagent)
(hydrogenolysis method and catalysts for the reduction of the acetal or ketal content in aqueous alc. reaction mixts.)
RN 5465-07-6 CAPLUS
CN 1,3-Dioxane-2-ethanol (9CI) (CA INDEX NAME)

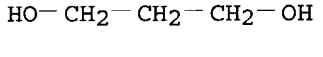


L21 ANSWER 6 OF 8 CAPLUS COPYRIGHT 2004 ACS on STN DUPLICATE 3
AN 1997:509896 CAPLUS
DN 127:94939
TI Intrinsic Kinetics of 3-Hydroxypropanal Hydrogenation over Ni/SiO2/Al2O3 Catalyst
AU Zhu, X. D.; Valerius, G.; Hofmann, H.; Haas, Th.; Arntz, D.
CS Institute of Technical Chemistry, Friedrich-Alexander University, Erlangen, 91058, Germany
SO Industrial & Engineering Chemistry Research (1997), 36(8), 2897-2902

CODEN: IECRED; ISSN: 0888-5885
PB American Chemical Society
DT Journal
LA English
AB The hydrogenation of 3-hydroxypropanal (HPA) to 1,3-propanediol (PD) over Ni/SiO2/Al2O3 catalyst powder was carried out at 318-353 K and 2.60-5.15 MPa in a batchwise-operated stirred autoclave. A kinetic model which can well describe the reactions of this process was developed. The model parameters were estimated by the maximum likelihood function of the concentration of HPA and PD according to concentration-time profiles measured at different temps. and pressures. To obtain high selectivity of PD the reaction temperature should be lower than 333 K.
IT **5465-07-6P**, 1,3-Dioxane-2-ethanol
RL: BYP (Byproduct); PREP (Preparation)
(intrinsic hydrogenation kinetics of 3-hydroxypropanal over Ni/SiO2/Al2O3 catalyst)
RN 5465-07-6 CAPLUS
CN 1,3-Dioxane-2-ethanol (9CI) (CA INDEX NAME)



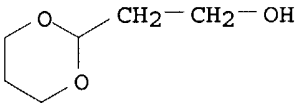
IT **504-63-2P**, 1,3-Propanediol
RL: IMF (Industrial manufacture); SPN (Synthetic preparation); PREP (Preparation)
(intrinsic hydrogenation kinetics of 3-hydroxypropanal over Ni/SiO2/Al2O3 catalyst)
RN 504-63-2 CAPLUS
CN 1,3-Propanediol (8CI, 9CI) (CA INDEX NAME)



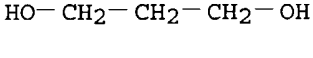
L21 ANSWER 7 OF 8 CAPLUS COPYRIGHT 2004 ACS on STN DUPLICATE 4
AN 1989:74456 CAPLUS
DN 110:74456
TI (Dialkoxymethyl)lithiums: generation, stability, and synthetic transformations
AU Shiner, Christopher S.; Tsunoda, Tetsuto; Goodman, Burton A.; Ingham, Stephen; Lee, Shi Hung; Vorndam, Paul E.
CS Dep. Chem. Biochem., Univ. Colorado, Boulder, CO, 80309-0215, USA
SO Journal of the American Chemical Society (1989), 111(4), 1381-92
CODEN: JACSAT; ISSN: 0002-7863
DT Journal
LA English
OS CASREACT 110:74456
AB (Dialkoxymethyl)lithium reagents, (RO)2CHLi, can be generated simply and efficiently and employed as synthetically useful one-carbon nucleophiles. Reductive lithiation of phenylthio-substituted precursors, (RO)2CHSPh, at -95° or transmetalation of tri-n-butylstannyl compds., (RO)2CHSnBu3, at -110 to -111° afforded the acyclic species (MeO)2CHLi and (EtO)2CHLi. The cyclic reagents 2-lithio-1,3-dioxolane and 2-lithio-1,3-dioxane (I), were similarly prepared at -78° by reductive lithiation or transmetalation. Reactions of (dialkoxymethyl)lithiums with electrophiles, including aldehydes, ketones, 2-cyclohexen-1-one (1,2- or 1,4-addition as desired), di-Me sulfate, primary

alkyl bromides, epoxides, oxetane, and Bu3SnCl, afforded structurally diverse, functionalized acetals. In these expts., which emphasized transformations of I yields of products generally exceeded 90%. The thermal stability of each reagent was investigated at several temps. The acyclic compds. decompose rapidly even at -95°, whereas lithiodioxolane and -dioxane derivs. are relatively stable at -78 and -45°, resp. These striking differences in solution lifetimes can be rationalized in terms of alternative decomposition pathways and steric and stereoelectronic factors. The primary products of thermal decomposition of I can be ascribed to formation of a reactive carbene or carbenoid via α-elimination. Equilibration expts. established that (dialkoxymethyl)lithium I is more stable thermodynamically than the α-monoalkoxy species [(benzyloxy)methyl]lithium, in accord with previous ab initio calcns.

IT **5465-07-6P**, 1,3-Dioxane-2-ethanol
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of)
RN 5465-07-6 CAPLUS
CN 1,3-Dioxane-2-ethanol (9CI) (CA INDEX NAME)



IT **504-63-2**, 1,3-Propanediol
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction of, with orthoformate)
RN 504-63-2 CAPLUS
CN 1,3-Propanediol (8CI, 9CI) (CA INDEX NAME)



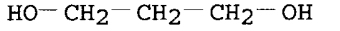
L21 ANSWER 8 OF 8 CAPLUS COPYRIGHT 2004 ACS on STN DUPLICATE 5
AN 1981:514840 CAPLUS
DN 95:114840
TI Reactivity of derivatives of 3-cyclopropylidenepropane. I. Synthesis of β-cyclopropylidenic alcohols
AU Bertrand, M.; Leandri, G.; Meou, A.
CS Fac. Sci. Tech., Marseille, F-13397/4, Fr.
SO Tetrahedron (1981), 37(9), 1703-10
CODEN: TETRAB; ISSN: 0040-4020
DT Journal
LA French
OS CASREACT 95:114840
GI

I

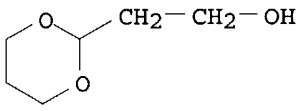
AB β-Cyclopropylidenic alcs. were prepared in 4 steps from cyclopropylidenetriphenylphosphorane (I; Z = PPh3) (II). E.g., II underwent Wittig reaction with MeCOCHMeCHZ1 [Z1 = O(CH2)3O] (NaH/MeOCH2CH2OMe, room temperature then 68-70°, 68 h) followed by transacetalization and hydrolysis to give the aldehyde I (Z = :CMeCHMeCHO), which was reduced (LiAlH4) to give the primary alc. I (Z =

:CMeCHMeCH2OH). Similar reaction of II with MeCOCHMeCMeZ2 (Z2 = OCH2CH2O) gave the secondary alc. I [Z = :CMe(CHMe)2OH] via the LiAlH4 reduction of I (Z = :CMeCHMeCOMe) (III). Methylation (MeLi) of III gave I (Z = :CMeCHMeCMe2OH).

IT **504-63-2**
RL: RCT (Reactant); RACT (Reactant or reagent)
(cyclocondensation reaction of, with dimethoxybutanone)
RN 504-63-2 CAPLUS
CN 1,3-Propanediol (8CI, 9CI) (CA INDEX NAME)



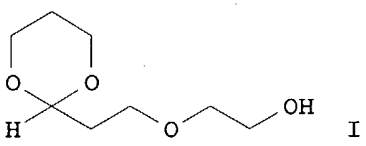
IT **5465-07-6P**
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation and oxidation of)
RN 5465-07-6 CAPLUS
CN 1,3-Dioxane-2-ethanol (9CI) (CA INDEX NAME)



L23 ANSWER 1 OF 2 CAPLUS COPYRIGHT 2004 ACS on STN DUPLICATE 1
AN 2004:372936 CAPLUS
DN 140:377037
TI Method for the removal of a cyclic acetal formed during the production of 1,3-propanediol from the reaction of oxirane with synthesis gas
IN Brewer, Stephen Edward; Diaz, Zaida; Powell, Joseph Broun; Weider, Paul Richard; Komplin, Glenn Charles; Blackbourn, Robert Lawrence
PA USA
SO U.S. Pat. Appl. Publ., 8 pp.
CODEN: USXXCO
DT Patent
LA English
FAN.CNT 2

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI US 2004087818	A1	20040506	US 2003-676690	20031001
PRAI US 2002-423140P	P	20021101		

GI

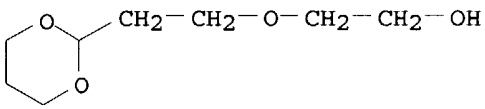


I

AB An improvement upon the process for the production of 1,3-propanediol (PDO) is described where an aqueous solution of 3-hydroxypropanal (HPA) is formed, and the HPA is subjected to hydrogenation to produce a crude PDO mixture comprising PDO, water, an acetal (I), and high- and low-volatility materials, where the crude PDO mixture is dried to produce a first overhead stream comprising water and some high volatility materials and a dried crude PDO mixture as a first distillate bottoms stream comprising PDO, I, and low-volatility materials, and where the dried crude PDO mixture is distilled to produce a second overhead stream comprising some high-volatility materials, a middle stream comprising PDO and I, and a second distillate bottoms stream comprising PDO and low-volatility materials. The improvement in this process comprises treating the crude PDO mixture and/or the dried crude PDO mixture and/or the PDO product with an acidic zeolite, an acidic cation exchange resin, or a soluble acid to convert the I into more volatile materials which can be easily separated from PDO by distn; a process flow diagram is presented.

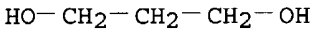
IT **102275-51-4P**
RL: BYP (Byproduct); RCT (Reactant); PREP (Preparation); RACT (Reactant or reagent)
(method for the removal of a cyclic acetal formed during the production of 1,3-propanediol from the reaction of oxirane with synthesis gas)

RN 102275-51-4 CAPLUS
CN Ethanol, 2-[2-(1,3-dioxan-2-yl)ethoxy]- (9CI) (CA INDEX NAME)

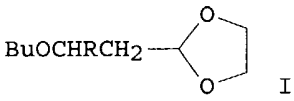


IT **504-63-2P**, 1,3-Propanediol

RL: EPR (Engineering process); PEP (Physical, engineering or chemical process); PUR (Purification or recovery); PYP (Physical process); PREP (Preparation); PROC (Process)
(method for the removal of a cyclic acetal formed during the production of 1,3-propanediol from the reaction of oxirane with synthesis gas)
RN 504-63-2 CAPLUS
CN 1,3-Propanediol (8CI, 9CI) (CA INDEX NAME)

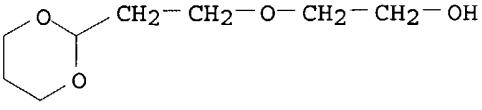


L23 ANSWER 2 OF 2 CAPLUS COPYRIGHT 2004 ACS on STN DUPLICATE 2
AN 1988:590293 CAPLUS
DN 109:190293
TI Acetals and ethers. XVIII. Reaction products of 2-propenal and 2-butenal with a mixture of n-aliphatic alcohol and ethylene glycol
AU Piasecki, Andrzej
CS Inst. Org. Polym. Technol., Tech. Univ. Wroclaw, Warsaw, Pol.
SO Journal fuer Praktische Chemie (Leipzig) (1987), 329(4), 579-86
CODEN: JPCEAO; ISSN: 0021-8383
DT Journal
LA English
OS CASREACT 109:190293
GI



I

AB The condensation of RCH:CHCHO (R = H, Me) with R1OH (R1 = Bu, pentyl, hexyl) and HOCH2CH2OH in the presence of 4-MeC6H4SO3H gave complex mixts. containing saturated, unsatd., cyclic and linear acetals; however, 2-(2-alkoxyalkyl)-1,3-dioxolanes (e.g., I; R = H, Me) were the main products.
IT **102275-51-4P**
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of)
RN 102275-51-4 CAPLUS
CN Ethanol, 2-[2-(1,3-dioxan-2-yl)ethoxy]- (9CI) (CA INDEX NAME)



IT **504-63-2**, Trimethylene glycol
RL: RCT (Reactant); RACT (Reactant or reagent)
(transacetalization of, with alkoxyalkanal acetals)
RN 504-63-2 CAPLUS
CN 1,3-Propanediol (8CI, 9CI) (CA INDEX NAME)